

We Claim:

1. A motorcycle construction for permitting a rider to assume either a first, elevated crouched racing-like position, or a second, lowered, reclined position feet-forward posture,

5 said motorcycle including a main frame assembly (1) provided with a front wheel suspension assembly (2), holding a front wheel (3) as well as a handlebar assembly (9) with two handgrips (18) for enabling the driver to steer and control said motorcycle, and a rear wheel suspension assembly (4) holding a rear wheel (5), and a combined engine/transmission assembly (6) arranged for driving said rear wheel (5) or said front wheel (3) or both wheels (5,3);

said main frame further being provided with a seat (7) for a driver,

15 wherein said main frame is provided with two pairs of footpegs, one fore footpeg pair (10f) and an aft footpeg pair (10a) for the driver's feet, said fore position pair(10f) for use with said reclined "custom chopper" position and being arranged on said main frame assembly (1) at a fore position, allowing for said drivers legs to be extended, and said aft pair (10a) for use with said elevated crouched racing position, allowing for said driver's feet to be positioned generally below said seat (7);

20 said main frame (1) further being provided with a seat moving assembly (13) for moving said driver seat (7) between said first elevated position (14), for use with said aft pair of footpegs (10a), and said second lowered seat position (15) for use with said fore pair of footpegs (10f).

25 2. The motorcycle construction of claim 1, including two fixed sets of foot operated gearshift lever assemblies (110a, 110f), one first gearshift lever assembly (110f) arranged for use with said fore footpegs (10f) and having a foot operated fore gearshift lever (111f), and one second gearshift lever assembly (110a) arranged for use with said aft footpegs (10a) and having a foot operated aft gearshift lever (111a), said gearshift lever assemblies (110a, 110f) connected to said transmission assembly (6).

30 3. The motorcycle construction of claim 1, including two fixed sets of foot operated brake pedal lever assemblies (115a, 115f), one first brake pedal lever

assembly (115f) arranged for use with said fore footpegs (10f) and having a foot operated fore brake pedal lever (116f), and one second brake pedal lever assembly (115a) arranged for use with said aft footpegs (10a) and having a foot operated brake pedal lever (116a), said brake pedal lever assemblies (115a, 115f) connected for braking one of said fore or aft wheels (3, 5).

4. The motorcycle construction of claim 1, further provided with a handlebar adjustment assembly (19) for adjusting the handlebar (9) with handgrips (18) between a rearward custom cruiser position (20), and a forward racing position (21);

5. The motorcycle of claim 4, wherein said main frame (1) includes a steering head assembly (2) including an inclined steering head pipe (25) with bearings for rotating upper and lower steering head triple tree plates (24, 26) holding upper portions of telescopic front wheel suspension fork arms (22) holding said front wheel (3).

6. The motorcycle construction of claim 5, wherein said handlebar (9) being mounted for being rotating about a horizontal axis (9d) in bearings (9e) on said upper steering head triple tree plate (24), said upper steering head triple tree plate (24) being provided with a forward extending actuator link arm (9c) holding an actuator (9a) connected to a handlebar moment link arm (9b) for rotating said handlebar (9) in its bearings (9e) while said actuator (9a) is shortened or lengthened, so as to adapt said handlebar (9) and handgrips (18) for said rearward reclined custom cruiser position (20) or for said forward racing position (21).

7. The motorcycle construction of claim 6, wherein said handlebar is provided with a clutch lever (27) corresponding with a first of said handgrips (18), and a hand brake lever (28) corresponding with a second of said handgrips (18), and rear view mirrors (29).

8. The motorcycle of claim 7, wherein said clutch lever (27) and said hand brake lever (28) are linked to said handlebar rotating actuator (9a) in order to adjust their angular position with respect to said handlebar (9) when said handlebar is rotated, so as for said hand brake lever (28) and clutch lever (27) to adapt to be in line with the driver's forearm when the handlebar (9) rotates, in order to improve the driver's catch on the brake and clutch levers (27, 28).

9. The motorcycle construction of claim 1, wherein said seat moving assembly (13) is arranged for halting said seat (7) in any desired intermediate position between said upper position (14) and said lower position (15).

10. The motorcycle construction of claim 1, wherein said seat moving assembly (13) includes a generally vertically inclined straight, tube-shaped rail or rails (33) fixed to the main frame (1) and generally arranged immediately in front of said driver's seat (7), said tube-shaped rail or rails including vertically running short, elongate cylindrical sleeves (34) with said seat (7) welded or otherwise fixedly attached to said sleeves (34), and with a seat elevation actuator (35) fixed with one junction to said main frame (1), and a second junction fixed to said seat (7) or said vertically running sleeves (34).

11. The motorcycle construction of claim 1, wherein said seat (7) carries underneath a mudguard assembly for said rear wheel (5).

12. The motorcycle construction of claim 1, wherein said seat moving assembly (13) includes a generally forward extension (37) of said seat (7), said forward extension (37) being fixed to said main frame (1) in a fore horizontal pivot axis (38) near said steering head (25), and with a seat elevation actuator (35) fixed with one force transfer end to said main frame (1), and a second force transfer end fixed to said seat (7) or said forward extension (37) at a distance from said pivot axis (38).

13. A motorcycle construction for permitting a rider to assume either a first elevated crouched racing position, or a second lowered, reclined, feet-forward

"custom chopper" position, said motorcycle including a main frame assembly (1) provided with a front wheel suspension assembly (2), holding a front wheel (3) as well as a handlebar assembly (9) with two handgrips (18) for enabling the driver to steer and control said motorcycle, and a rear wheel suspension assembly (4) holding a rear wheel (5), and a combined engine/transmission assembly (6) arranged for driving said rear wheel (5) or said front wheel (3) or both wheels (5,3), said main frame further provided with a seat (7) for a driver,

wherein said main frame (1) includes a driver footpeg assembly (11) with a set of footpegs(10m) arranged for being moved on a slide rail (26), said set of footpegs (10m) arranged for being moved between a fore position (100f) for use with said reclined "custom chopper" position, allowing for said driver's legs to be extended in a forward direction for resting said driver's feet on said footpegs (10m), and an aft position (100a) for use with said elevated crouched racing position, allowing for said driver's feet to be supported by said footpegs (10m) positioned generally below said seat (7);

said main frame further being provided with a seat moving assembly (13) for moving said driver seat (7) between said first elevated position (14), for use with said aft position (100a) of said footpegs (10m), and said second lowered seat position (15) for use with said fore position (100f) of said footpegs (10m).

14. The motorcycle construction of claim 13, wherein said footpeg assembly (11) includes a foot operated gearshift lever assembly (110) arranged to move with said movable footpegs (10m) and arranged for rotating a foot operated gearshift lever (111) to accommodate a changing attack angle of the driver's gearshift operating foot depending on the actual position of the footpeg (10m) between and including said fore and aft positions (100f, 100a), said gearshift lever assembly being flexibly connected by e.g. a wire-and-hose or a hydraulic connection to said transmission assembly (6)

15. The motorcycle construction of claim 13, wherein said footpeg assembly (11) includes a foot operated brake pedal lever assembly (115) arranged to move with said movable footpegs (10m) and arranged for rotating a foot operated brake pedal lever (116) to accommodate a changing attack angle of the driver's braking

foot depending on the actual position of the footpeg (10m) between and including said fore and aft positions (100f, 100a), said brake pedal lever assembly (115) being flexibly connected by e.g. a wire-and-hose or a hydraulic brake force transfer means (not illustrated) to one or both of a rear wheel brake (51) and a fore wheel brake (31)

16. The motorcycle construction of claim 13, wherein said seat moving assembly (13) is arranged for halting said seat (7) in any desired intermediate position between said upper position (14) and said lower position (15).

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17. The motorcycle construction of claim 13, further provided with a handlebar adjustment assembly (19) for adjusting the handlebar (9, 18) between a rearward custom cruiser position (20), and a forward racing position (21);

15 18. The motorcycle of claim 17, wherein said main frame (1) being provided with a steering head assembly (2) including an inclined steering head pipe (25) with bearings for rotating upper and lower steering head triple tree plates (24, 26) holding upper portions of telescopic front wheel suspension fork arms (22) holding said front wheel (3).

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19. The motorcycle construction of claim 18, wherein said handlebar assembly (9) is mounted for being rotating about a horizontal axis (9d) in bearings (9e) on said upper steering head triple tree plate (24), said upper steering head triple tree plate (24) provided with a forward extending actuator link arm (9c) holding an actuator (9a) connected to a handlebar moment link arm (9b) for rotating said handlebar (9) in its bearings (9e) while said telescoping actuator (9a) is shortened or lengthened, so as for said handlebar (9) and handgrips (18) to adapt for said rearward reclined custom cruiser position (20) or said forward racing position (21).

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20. The motorcycle construction of claim 19, wherein said handlebar assembly (9) is provided with a clutch lever (27) corresponding in action with a first of said

handgrips (18), and a hand brake lever (28) corresponding in action with a second of said handgrips (18), and rear view mirrors (29).

21. The motorcycle of claim 20, wherein said clutch lever (27) and said hand  
5 brake lever (28) being linked to said handlebar rotating actuator (9a) in order to adjust their angular position with respect to said handlebar (9) when said handlebar is rotated, so as for said hand brake lever (28) and clutch lever (27) to adapt to be in line with the driver's forearm when the handlebar (9) rotates, in order to improve the driver's catch on the brake and clutch levers (27, 28).

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22. The motorcycle construction of claim 13, wherein said seat moving  
assembly (13) includes a generally vertically inclined straight, tube-shaped rail or  
rails (33) and fixed to the main frame (1) and arranged generally arranged  
immediately in front of said driver's seat (7), said tube-shaped rail or rails  
15 including vertically running short, elongate cylindrical sleeves (34) with said seat (7) welded or otherwise fixedly attached to said sleeves (34), and with a seat elevation actuator (35) fixed with one force transfer end to said main frame (1), and a second force transfer end fixed to said seat (7) or said vertically running sleeves (34).

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23. The motorcycle construction of claim 13, wherein said footpeg assembly  
(11) being arranged to move said movable footpegs (10m) to any intermediate  
position between said fore and aft positions (100f, 100a) for said footpegs (10m).

25 24. The motorcycle construction of claim 13, wherein said seat (7) carrying  
underneath a mudguard assembly for said rear wheel (5).

25. The motorcycle construction of claim 13, wherein said seat moving  
assembly (13) includes a generally forward extension (37) of said seat (7), said  
30 forward extension (37) being fixed to said main frame (1) in a fore horizontal pivot axis (38) near said steering head (25), and with a seat elevation actuator (35) fixed with one force transfer end to said main frame (1), and a second force

transfer end fixed to said seat (7) or said forward extension (37) at a distance from said pivot axis (38).

26. A motorcycle construction for permitting a rider to assume either a first  
5 elevated crouched racing position, or a second lowered, reclined, feet-forward  
"custom chopper" position, said motorcycle including a main frame assembly (1)  
provided with a front wheel suspension assembly (2), holding a front wheel (3) as  
well as a set of handlebars (9) provided with handgrips (18) for enabling the  
driver to steer and control said motorcycle, and a rear wheel suspension  
10 assembly (4) holding a rear wheel (5), and a combined engine/transmission  
assembly (6) arranged for driving said rear wheel (5) or said front wheel (3) or  
both wheels (5,3);

said main frame further provided with a seat (7) for a driver, and a driver  
footpeg assembly (11) arranged on said main frame (1), including one or more  
15 sets of driver footpegs (10m, or 10f and 10a),

wherein said footpegs (10m or 10f) providing a fore position (100f) for use  
with said reclined "custom chopper" position, allowing for said driver's legs to be  
extended in a forward direction for resting said driver's feet on said fore footpeg  
position (100f), and said footpegs (10m or 10a) providing an aft position (100a)  
20 for use with said elevated crouched racing position, allowing for said driver's feet  
to be supported on said aft footpeg position (100a) generally below said seat (7);

said main frame further provided with a seat moving assembly (13) for  
moving said driver seat (7) between said first elevated position (14), for use with  
said aft position (100a) of said footpegs (10m or 10a), and said second lowered  
25 seat position (15) for use with said fore position (100f) of said footpegs (10m or  
10f).

27. The motorcycle construction of claim 26, wherein said footpeg assembly  
(11) includes a foot operated gearshift lever assembly (110) arranged to move  
30 with said movable footpegs (10m) and arranged for rotating a foot operated  
gearshift lever (111) to accommodate a changing attack angle of the driver's gear  
shifting foot depending on the actual position of the footpeg (10m) between and  
including said fore and aft positions (100f, 100a), said gearshift lever assembly

being flexibly connected by e.g. a wire-and-hose or a hydraulic connection to said transmission assembly (6)

28. The motorcycle construction of claim 26, wherein said footpeg assembly  
5 (11) includes a foot operated brake pedal lever assembly (115) arranged to move with said movable footpegs (10m) and arranged for rotating a foot operated brake pedal lever (116) to accommodate a changing attack angle of the driver's braking foot depending on the actual position of the footpeg (10m) between and including  
10 said fore and aft positions (100f, 100a), said brake pedal lever assembly (115) being flexibly connected by e.g. a wire-and-hose or a hydraulic brake force transfer means to one or both of a rear wheel brake (51) and a fore wheel brake (31)

29. The motorcycle construction of claim 26, including two fixed sets of foot  
15 operated gearshift lever assemblies (110a, 110f), one first gear shift lever assembly (110f) arranged for use with said fore footpegs (10f) and having a foot operated fore gearshift lever (111f), and one second gearshift lever assembly (110a) arranged for use with said aft footpegs (10a) and having a foot operated aft gear shift lever (111a), said gearshift lever assemblies (110a, 110f) connected  
20 to said transmission assembly (6).

30. The motorcycle construction of claim 26, including two fixed sets of foot  
operated brake pedal lever assemblies (115a, 115f), one first brake pedal lever assembly (115f) arranged for use with said fore footpegs (10f) and having a foot  
25 operated fore brake pedal lever (116f), and one second brake pedal lever assembly (115a) arranged for use with said aft footpegs (10a) and having a foot operated brake pedal lever (116a), said brake pedal lever assemblies (115a, 115f) connected for braking one of said fore or aft wheels (3, 5).

31. The motorcycle construction of claim 26, further provided with a handlebar  
30 adjustment assembly (19) for adjusting the handlebar (9, 18) between a rearward custom cruiser position (20), and a forward racing position (21);



32. The motorcycle of claim 31, said main frame (1) having a steering head assembly (2) including an inclined steering head pipe (25) with bearings for rotating upper and lower steering head triple tree plates (24, 26) holding upper portions of telescopic front wheel suspension fork arms (22) holding said front  
5 wheel (3).

33. The motorcycle construction of claim 32, wherein said handlebar (9) being mounted for being rotating about a horizontal axis (9d) in bearings (9e) on said upper steering head triple tree plate (24), said upper steering head triple tree  
10 plate (24) provided with a forward extending actuator link arm (9c) holding an actuator (9a) connected to a handlebar moment link arm (9b) for rotating said handlebar (9) in its bearings (9e) while said telescoping actuator (9a) is shortened or lengthened, so as for said handlebar (9) and handgrips (18) to adapt for said rearward reclined custom cruiser position (20) or said forward  
15 racing position (21).

34. The motorcycle construction of claim 33, wherein said handlebar assembly being provided with a clutch lever (27) corresponding with a first of said handgrips (18), and a hand brake lever (28) corresponding with a second of said  
20 handgrips (18), and rear view mirrors (29).

35. The motorcycle of claim 34, wherein said clutch lever (27) and said hand brake lever (28) are linked to said handlebar rotating actuator (9a) in order to adjust their angular position with respect to said handlebar (9) when said  
25 handlebar is rotated, so as for said hand brake lever (28) and clutch lever (27) to adapt to be in line with the driver's forearm when the handlebar (9) rotates, in order to improve the driver's catch on the brake and clutch levers (27, 28).

36. The motorcycle construction of claim 26, wherein said seat moving  
30 assembly (13) is arranged for halting said seat (7) in any desired intermediate position between said upper position (14) and said lower position (15).

37. The motorcycle construction of claim 27, wherein said footpeg assembly (11) is arranged to move said movable footpegs (10m) to any intermediate position between said fore and aft positions (100f, 100a) for said footpegs (10m).

5 38. The motorcycle construction of claim 26, wherein said seat moving assembly (13) includes a generally vertically inclined straight, tube-shaped rail or rails (33) and fixed to the main frame (1) and arranged generally arranged immediately in front of said driver's seat (7), said tube-shaped rail or rails including vertically running short, elongate cylindrical sleeves (34) with said seat  
10 (7) welded or otherwise fixedly attached to said sleeves (34), and with a seat elevation actuator (35) fixed with one force transfer end to said main frame (1), and a second force transfer end fixed to said seat (7) or said vertically running sleeves (34).

15 39. The motorcycle construction of claim 26, wherein said seat (7) carrying underneath a mudguard assembly for said rear wheel (5).

40. The motorcycle construction of claim 26, wherein said seat moving assembly (13) includes a generally forward extension (37) of said seat (7), said  
20 forward extension (37) being fixed to said main frame (1) in a fore horizontal pivot axis (38) near said steering head (25), and with a seat elevation actuator (35) fixed with one force transfer end to said main frame (1), and a second force transfer end fixed to said seat (7) or said forward extension (37) at a distance from said pivot axis (38).

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